CLAIMS

1. A knife assembly for a wood cutting apparatus, comprising:

a knife having a cutting edge and opposing front and back sides extending from said cutting edge, said front side having a first interlocking feature and said back side having a second interlocking feature; and

an outer clamping member adapted to receive said back side of said knife, said outer clamping member having a third interlocking feature for interlocking with said second interlocking feature to index said knife to said outer clamping member, wherein said second interlocking feature includes opposed first plane surfaces, and said third interlocking feature includes corresponding opposed second plane surfaces defining a second positive angle that is slightly greater than said first positive angle.

2. The knife assembly of claim 1, further comprising a counterknife adapted to receive said front side of said knife and to mount to the apparatus, said counterknife

having a fourth interlocking feature for interlocking with said first interlocking feature to index said knife to said counterknife, said outer clamping member adapted to mount to said counterknife.

3. The knife assembly of claim 1, wherein the difference between said first positive angle and said second positive angle is in the range of about 1/4 - 7 degrees.

4. The knife assembly of claim 2, wherein the difference between said first positive angle and said second positive angle is in the range of about 1/4 - 7 degrees.

5. The knife assembly of claim 1, wherein said first angle is about 70 degrees.

6. The knife assembly of claim 2, wherein said first angle is about 70 degrees.

7. The knife assembly of claim 5, wherein said second angle is about 72 degrees.

8. The knife assembly of claim 6, wherein said second angle is about 72 degrees.

9. The knife assembly of claim 1, wherein said opposed first plane surfaces are spaced apart by an intermediating plane surface, said first plane surfaces defining a first positive angle therebetween, said first plane surfaces defining respective equal angles with respect to said intermediating plane surface.

10. The knife assembly of claim 9, wherein the difference between said first positive angle and said second positive angle is in the range of about 1/4 - 7 degrees.

11. The knife assembly of claim 9, wherein said first angle is about 70 degrees

12. The knife assembly of claim 11, wherein said second angle is about 72 degrees.

13. A knife for use in a knife assembly for a wood cutting apparatus including a counterknife adapted for mounting to the apparatus and an outer clamping member adapted for mounting to the counterknife and for clamping the knife therebetween, the knife having an elongate axis and comprising two spaced apart cutting edges parallel to said elongate axis, and opposing front and back sides extending between said cutting edges, said front side having a first interlocking feature for interlocking to the counterknife and said back side having a second interlocking feature for interlocking to the outer clamping member, wherein said first interlocking feature includes a channel extending parallel to said elongate axis, and wherein said second interlocking feature

includes opposed spaced apart plane surfaces defining a positive angle therebetween.

14. The knife of claim 13, wherein said channel is defined by two spaced apart deflector ridges each having a concavely curved outer side surface terminating in a line.

15. The knife of claim 14, wherein said first angle is about 70 degrees.

16. A knife assembly for a wood cutting apparatus, comprising:

a knife having an elongate axis and comprising two spaced apart cutting edges parallel to said elongate axis, and opposing front and back sides extending between said cutting edges, said front side having a pair of spaced apart deflector ridges extending parallel to said elongate axis and outwardly from said front side; and

a counterknife adapted to receive said front side of said knife and to mount to the apparatus, said counterknife having an interlocking feature providing substantially full contact with said knife between said deflector ridges, to index said knife to said counterknife.

17. The knife assembly of claim 16, wherein said deflector ridges define therebetween a first planar surface on said front side having first width defined in a cross-section of said knife taken perpendicular to said elongate axis, and wherein said interlocking feature includes a second planar surface having a second width that is substantially the same as said first width to provide said substantially full contact.

18. The knife assembly of claim 17, wherein said knife includes respective third planar surfaces adjacent each of said deflector ridges, said third planar surfaces extending substantially from said deflector ridges out to the respective cutting edges and defining a third width defined in said cross-section, and wherein said counterknife includes a fourth planar surface adapted to make contact with a selected one of said third planar surfaces over at least 50% of said third width when said knife is received by said counterknife.

19. The knife assembly of claim 17, further comprising an outer clamping member adapted to receive said back side of said knife and to mount to said counterknife, said outer clamping member having an interlocking feature for interlocking with a corresponding interlocking feature of said back side of said knife to index said knife to said outer clamping member so that, in cooperation with said substantially full contact, a small gap exists between an exposed one of said deflector ridges and said counterknife, said gap ranging from about 0.001" - 0.008".

20. The knife assembly of claim 18, further comprising an outer clamping member adapted to receive said back side of said knife and to mount to said counterknife, said outer clamping member having an interlocking feature for interlocking with a corresponding interlocking feature of said back side of said knife to index said knife to said outer clamping member so that, in cooperation with said substantially full contact, a small gap exists between an exposed one of said deflector ridges and said counterknife, said gap ranging from about 0.001" - 0.008".

21. A knife assembly for clamping a knife to a rotating wood cutting apparatus, the knife having a cutting edge and opposing front and back sides extending from said cutting edge, the knife assembly comprising:

a counterknife adapted to receive the front side of the knife and to mount to the apparatus at a mounting point, said counterknife including a first heel portion; and

an outer clamping member adapted to receive the back side of the knife and to mount to said counterknife, said outer clamping member including a second heel portion corresponding to said first heel portion, wherein said first heel portion is adapted to oppose said second heel portion substantially along a line that is at a positive angle with

respect to the direction of travel of the knife.

22. The knife assembly of claim 21, wherein said positive angle is in the range of about 20 - 40 degrees.

23. The knife assembly of claim 21, wherein said outer clamping member is adapted to mount to said counterknife so that said first and second heel portions abut one another so that said counterknife prevents movement of said outer clamping member, relative to said counterknife, in a direction opposite to the direction of rotation of the knife assembly.

24. The knife assembly of claim 23, wherein said positive angle is in the range of about 20 - 40 degrees.

25. A knife assembly for a rotating wood cutting apparatus, comprising:

a knife having a cutting edge and opposing front and back sides extending from said cutting edge;

a counterknife adapted to receive said front side of said knife and to mount to the apparatus at a mounting point, said counterknife including a first heel portion; and

an outer clamping member adapted to receive said back side of said knife and to mount to said counterknife, said outer clamping member including a second heel portion corresponding to said first heel portion, wherein said first heel portion is adapted to oppose said second heel portion substantially along a line that is at a positive angle with respect to the direction of travel of the knife.

26. The knife assembly of claim 25, wherein said positive angle is in the range of about 20 - 40 degrees.

27. The knife assembly of claim 25, wherein said outer clamping member is adapted to mount to said counterknife so that said first and second heel portions abut one another so that said counterknife prevents movement of said outer clamping member, relative to said counterknife, in a direction opposite to the direction of rotation of the knife assembly.

28. The knife assembly of claim 27, wherein said positive angle is in the range of about 20 - 40 degrees.

29. A wood cutting apparatus, comprising:

a rotating member for rotating about an axis of rotation;

a knife having a cutting edge and opposing front and back sides extending from said cutting edge, said front side having a first interlocking feature and said back side having a second interlocking feature;

an outer clamping member adapted to receive said back side of said knife, said outer clamping member having a third interlocking feature for interlocking with said second interlocking feature to index said knife to said outer clamping member, and said second interlocking feature includes opposed first plane surfaces defining a first positive angle therebetween, wherein said third interlocking feature includes corresponding opposed second plane surfaces defining a second positive angle that is slightly greater than said first positive angle; and

a counterknife adapted to receive said front side of said knife and to mount to said rotating member, said counterknife having a fourth interlocking feature for

interlocking with said first interlocking feature to index said knife to said counterknife, said outer clamping member adapted to mount to said counterknife.

30. A wood cutting apparatus, comprising:

a rotating member for rotating about an axis of rotation;

a knife having an elongate axis and comprising two spaced apart cutting edges parallel to said elongate axis, and opposing front and back sides extending between said cutting edges, said front side having a pair of spaced apart deflector ridges extending parallel to said elongate axis and outwardly from said front side; and

a counterknife adapted to receive said front side of said knife and to mount to said rotating member, said counterknife having an interlocking feature providing substantially full contact with said knife between said deflector ridges, to index said knife to said counterknife.

31. A wood cutting apparatus, comprising:

a rotating member for rotating about an axis of rotation;

a knife having a cutting edge and opposing front and back sides extending from said cutting edge;

a counterknife adapted to receive the front side of said knife and to mount to said rotating member at a mounting point, said counterknife including a first heel portion; and

an outer clamping member adapted to receive the back side of said knife and to mount to said counterknife, said outer clamping member including a second heel portion corresponding to said first heel portion, wherein said first heel portion is adapted to oppose said second heel portion substantially along a line that is at a positive angle with respect to the direction of travel of the knife.

32. A wood cutting apparatus, comprising:

a rotating member for rotating about an axis of rotation;

a knife having a cutting edge;

a counterknife for mounting said knife to said rotating member, said counterknife having a way disposed below said cutting edge and accessible from outside the apparatus; and

a splitter adapted for manual insertion and removal through said way, said splitter having at least one splitting portion including a curvilinear splitting edge for splitting articles of wood cut by the knife.

33. The apparatus of claim 32, wherein said splitting edge is convex.

34. The apparatus of claim 32, wherein said splitter includes two splitting portions having a curvilinear splitting edge, said two splitting edges being substantially symmetric about an axis of said splitter.

35. The apparatus of claim 33, wherein said splitter includes two splitting portions having a curvilinear splitting edge, said two splitting edges being substantially symmetric about an axis of said splitter.

36. A wood cutting apparatus, comprising:

a rotating member for rotating about an axis of rotation;

a knife having a cutting edge;

a counterknife for mounting said knife to said rotating member, said counterknife having a way disposed below said cutting edge and accessible from outside the apparatus; and

a splitter adapted for manual insertion and removal through said way, said splitter having two splitting edges substantially symmetrically disposed about an axis of said splitter.

37. A splitter for a knife assembly for a wood cutting apparatus, the knife assembly including a knife having a cutting edge and a counterknife for mounting the knife to the apparatus, the counterknife having a way, the splitter adapted to fit in said way and comprising two substantially symmetrically disposed splitting edges adapted for splitting articles of wood cut by the knife.

38. The splitter of claim 37, wherein said splitting edges are curvilinear.

39. The splitter of claim 38, wherein said splitting edges are convex.

40. A splitter for a knife assembly for a wood cutting apparatus, the knife assembly including a knife having a cutting edge and a counterknife for mounting the knife to the apparatus, the counterknife having a way, the splitter adapted to fit in said way and comprising at least one curvilinear splitting edge adapted for splitting articles of wood cut by the knife.

41. The splitter of claim 40, wherein said at least one splitting edge is convex.